

REMARKS:

Before this amendment and response, claims 1-20 are pending and stand rejected in the office action. Claims 1, 7, and 17 are amended and new claims 21 to 30 presented that more distinctly claim desirable embodiments. After this amendment, claims 1-30 are pending.

Terms and concepts presented in new claims 21-30 such as “vehicle,” “remote control system,” “main axis,” “primary heading sensor,” “primary reference heading,” “remote control steering manipulator,” “secondary heading sensor,” “steering input,” “user desired direction of travel heading,” “steering computer,” are taken from existing claims. The term “compares the primary reference heading and the desired direction of travel heading” from new claim 21 is inherently described throughout and more specifically implied in for example paragraphs 38-39, 42 and 31-33. Accordingly, new matter has not been added.

REJECTION UNDER 35 U.S.C. §112:

1. Claim 1 was objected to because of the dash in line 7, and which has been removed by amendment. Reconsideration is requested.

2. Claim 7 was objected to because of use of the term “continuously synchronized.” Applicants have added extra words to point out and more distinctly claim this embodiment, and thereby obviating the objection; i.e., wherein information from said secondary heading sensor is continuously compared ~~synchronized~~ with information from the primary heading sensor.

Reconsideration is requested.

4. Claim 7 was rejected under 35 U.S.C. §112, first paragraph, written description grounds. Claim 7 has been rejected (item 4, page 2) because “[t]he specification mentions both a synchronized secondary heading sensor and a continuously synchronized heading sensor, but the differences between the two are never disclosed.”

Applicants point out that the “synchronization” between the two sensors readily is understood by a skilled reader. Also, to further clarify the meaning, the claim has been amended to recite: “wherein information from said secondary heading sensor is continuously compared ~~synchronized~~ with information from the primary heading sensor.”

Applicants note that the results of synchronization repeatedly are stated (see for example, paragraphs 3 bottom, 9, 15 12, 16, 26, and 32 end to 33 beginning). In particular, paragraph 42 explains an embodiment wherein both sensors sense geomagnetic north: “the remote control system will function regardless of the local deviation from true north, since both heading sensors 14, 19 are synchronized with each other with respect to any set reference heading N.” In other words, the two sensor outputs inherently are compared to determine the heading of the remote control system, because both sensors sense the same direction, and errors in the magnetic field are cancelled out this way. A skilled reader clearly understands that the two sensor outputs are to be compared and it is this comparison that is referred to as “synchronization.”

Comparisons of headings are referred to also in Figure 5 and paragraph 39, which explains “the steering input data includes an angularity detector ...between the reference heading and the direction of rotation of the tracking-ball 16. An exemplary direction of rotation is indicated by the dash-dotted line 26 in Fig. 5.”

A skilled reader reading these and the other passages would understand readily that comparisons between the user input data, secondary heading, and primary heading, are used to determine a course correction that is implemented by the steering computer. This is now recited in the amended claims. Accordingly, reconsideration and removal of this rejection earnestly are solicited.

Reconsideration of the amended claims in light of the clarifying amendment and accompanying remarks, and removal of this rejection cheerfully are requested.

5. Claims 17-20 were rejected under 35 U.S.C. §112, first paragraph, enablement grounds.

The examiner (page 3, top) has asserted that the recited phrase “translating the relative orientation of the remote control device into coincidence with the orientation of the watercraft” contradicts paragraph 31 of the specification, which describes a comparison between a “primary heading sensor” and “secondary heading sensor.” The overall operation as claimed in claims 17-20, however, involve three sources of information: 1. user input information (such as from a joystick); 2. primary heading sensor (such as a fixed magnetic field sensor that reports watercraft heading); and 3. secondary heading sensor (such as a magnetic field sensor in the remote control device that reports remote control device heading). In fact, all three information are used. The cited passage refers instead to the secondary heading sensor 19 that is “synchronized” (i.e. compared with) “the primary heading sensor 14.” The passage also describes “steering input data hereby includes information of an active position of the steering input manipulator [i.e. the user input] relative to the reference heading “N” [i.e. the secondary heading sensor information]. The first cited passage thus refers to a comparison of the primary and secondary sensors, which via this “synchronization” allows correction for the heading of the remote control unit. The second passage explains that both the user input information and secondary sensor information together are sent to the steering computer. Thus, the passage refers to two separate comparisons, a first comparison between the two heading sensors to “synchronize” the remote unit heading and a second comparison between the user input and an environmental reference (in this case, earth magnetic field).

Applicants further note that other sections of the specification, when read together (e.g. paragraphs 32-33, 38-39) also lead a skilled artisan reader to understand that three things (primary sensor output, secondary sensor output, and user input) are compared (as now recited in the amended claims) to obtain the often repeated results described in the specification.

To more clearly point out and distinctly claim these points, claim 17, (and also dependent claims 18-20) has been clarified by amendment to recite these comparisons. “inputting an operator control command indicative of a desired direction of movement of the watercraft into a remote control device; ~~determining an~~ comparing orientation of the remote control device ~~relative to an environmentally based reference system~~ at the time of input of the operator control command; determining an orientation of the watercraft relative to the environmentally based reference system at the time of input of the operator control command; comparing and ~~translating~~ the ~~relative~~ orientation of the remote control device ~~into coincidence~~ with the orientation of the watercraft, and based on said comparison, ~~translation~~, ~~correctly~~ controlling movement of the watercraft in the operator input desired direction.” The term “relative” has been removed as unnecessary, since the term “compare” already implies a relationship of one thing relative to another. In fact, the geomagnetic determinations used in the examples may be considered both relative and also absolute, depending on grammatical context.

Reconsideration in view of the amendments and remarks, and removal of this rejection courteously are solicited.

7. Claims 1-16 were rejected under 35 U.S.C. §112, second paragraph indefiniteness grounds. Amendments are made as described below.

8. Claim 1 was rejected for reciting the term “desired direction of travel.” This has been amended to recite “a desired direction of travel,” which no longer requires an antecedent basis. Reconsideration and removal of this rejection are requested.

9. Claim 5 was rejected for reciting “the inclination direction.” This has been amended to remove the word “the” and no longer requires an antecedent basis. Joysticks inherently contain an inclination direction and the term “an” has been substituted for “the.” Reconsideration and removal of this rejection are requested.

11. Claims 1-16 were further rejected on 112 second paragraph grounds for lack of clarity. In response, applicants have amended claim 1 (and thus dependent claims thereon) to more particularly point out and distinctly claim a desirable embodiment

The term “fixedly” is removed from claim 1 as unnecessary, because the term “attached” (after it, in the same claim) means permanently or non-permanent. The phrase “~~said primary heading sensor being adapted to detect a reference heading~~” was removed as unnecessary, because the term “heading sensor” already means this.

Other changes have been made to this claim to more particularly point out and distinctly recite the fact that 4 units (primary sensor, secondary sensor, user input, and computer) cooperate by generating information used by the computer to coordinate steering commands. The amended claim recites that the two heading sensors generate information that is synchronized (for example by the computer) and that the remote control unit generates information from both user input and secondary sensor. A skilled artisan reader knows that this combined information contains desired travel information. The computer also has heading information from the primary sensor to finally output a steering command to comport the desired with the actual headings, as described in the specification, for example in paragraphs 7, 15-16, 26 end, 27 middle (“primary heading sensor 14 communicates with the onboard steering computer 12,” 31, 32 bottom to 33 middle, 39 and 42.

Accordingly, the use of information from the two heading sensors and the user input (which is combined with secondary sensor information and inherently provides a user desired direction) is more particularly pointed out and distinctly claimed. Reconsideration and removal of this rejection respectively are requested.

Applicants submit new claims 21-30, which incorporate the same terms and concepts discussed above. Consideration and allowance of these claims are requested.

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Applicant submits that the above amendments obviate the rejection of the claims under 35 U.S.C. §112 and thus ask that the Examiner reconsider and withdraw the rejection of the claims and indicate their allowance in the next paper from the Office.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, Order No. 7589.166.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner should directly contact the undersigned by phone to further the discussion.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Tracy Druce", written in a cursive style.

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